

CLAIMS

1. A method for rendering a document on a display
5 utilizing a viewer program running on a computer system,
comprising:
 receiving primary content of the document to be
displayed;
 identifying secondary content to be displayed in
10 conjunction with the primary content;
 determining whether there is available white space
within the primary content, when displayed within a display
area, to accommodate the secondary content; and
 performing at least one of:
15 embedding the secondary content in the
available white space if it is determined that
there is available white space to accommodate the
secondary content; and
 reflowing the primary content to form
20 suitable white space in the displayed area and
embedding the secondary content in the suitable
white space formed.
2. The method of claim 1 further comprising receiving a
25 user action to change a display of the primary content in
the displayed area; and reiterating determining available
white space and performing at least one of embedding the
secondary content and reflowing the primary content.

3. The method of claim 2 wherein the user action comprises at least one of a resizing of the display area and a scrolling of the primary content.

5 4. The method of claim 1 wherein the white space is a background to the primary content.

5. The method of claim 1 wherein identifying secondary content comprises receiving a designation associated with
10 receiving secondary content indicating that the secondary content is to be persistently displayed within white space of the document.

6. The method of claim 5 wherein receiving a designation
15 further comprises retrieving the designation from a database accessible to the viewer program.

7. The method of claim 1 wherein identifying secondary content comprises generating a viewer object containing the
20 secondary content.

8. The method of claim 1 further comprising automatically resizing the secondary content to fill the determined white space.

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9. The method of claim 1 wherein the step of determining whether there is available white space further comprises determining the areas of the data elements used through a Document Object Model Interface.

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10. The method of claim 1 wherein the step of reflowing the primary content further comprises making changes to the Document Object Model tree and reflowing the document according to the changes.

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11. The method of claim 1 wherein identifying secondary content to be displayed in conjunction with the primary content further comprises identifying secondary content having a time based designation for causing at least one of
10 i) an alternating of the display of the secondary content with other designated secondary content in a same white space, and ii) a displaying of the identified secondary content in the white space for only the time period specified.

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12. A computer program, on a computer usable medium, having program code means for rendering a document on a display, comprising:

means for receiving primary content of the document to
20 be displayed;

means for identifying secondary content to be displayed in conjunction with the primary content;

means for determining whether there is available white space within the primary content, when displayed within a
25 display area, to accommodate the secondary content; and

means for performing at least one of:

embedding the secondary content in the available white space if it is determined that there is available white space to accommodate the
30 secondary content; and

reflowing the primary content to form
suitable white space in the displayed area and
embedding the secondary content in the suitable
white space formed.

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13. The computer program of claim 12 further comprising
means for identifying a user action to change a display of
the primary content in the displayed area; and means for
re-invoking the means for determining available white space
10 and the means for performing at least one of embedding the
secondary content and reflowing the primary content.

14. The computer program of claim 12 wherein the means for
identifying secondary content further comprises means for
15 receiving a designation associated with receiving secondary
content indicating that the secondary content is to be
persistently displayed within white space of the document.

15. The computer program of claim 12 wherein the means for
20 identifying secondary content comprises means for generating
a viewer object containing the secondary content.

16. The computer program of claim 12 further comprising
means for automatically resizing the secondary content to
25 fill the determined white space.

17. The computer program of claim 12 wherein means for
identifying secondary content to be displayed in conjunction
with the primary content further comprises means for
30 identifying secondary content having a time based

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designation for causing at least one of i) an alternating of the display of the secondary content with other designated secondary content in a same white space, and ii) a displaying of the identified secondary content in the white space for only the time period specified.

18. The computer program of claim 12 wherein the means for determining whether there is available white space further comprises means for determining the areas of the data elements used through a Document Object Model Interface.

19. A computer system running a viewer program having means for rendering a document on a display, comprising:

means for receiving primary content of the document to be displayed;

means for identifying secondary content to be displayed in conjunction with the primary content;

means for determining whether there is available white space within the primary content, when displayed within a display area, to accommodate the secondary content; and

means for performing at least one of:

embedding the secondary content in the available white space if it is determined that there is available white space to accommodate the secondary content; and

reflowing the primary content to form suitable white space in the displayed area and embedding the secondary content in the suitable white space formed.

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20. The computer system of claim 19 further comprising means for identifying a user action to change a display of the primary content in the displayed area; and means for re-invoking the means for determining available white space
5 and the means for performing at least one of embedding the secondary content and reflowing the primary content.

21. The computer system of claim 19 wherein the means for identifying secondary content further comprises means for
10 receiving a designation associated with receiving secondary content indicating that the secondary content is to be persistently displayed within white space of the document.

22. The computer system of claim 19 wherein the means for
15 identifying secondary content comprises means for generating a viewer object containing the secondary content.

23. The computer system of claim 19 wherein the means for receiving a designation further comprises means for
20 retrieving the designation from a database accessible to the viewer program.

24. The computer system of claim 19 further comprising means for automatically resizing the secondary content to
25 fill the determined white space.

25. The computer system of claim 19 wherein the means for determining whether there is available white space further comprises means for determining the areas of the data
30 elements used through a Document Object Model Interface.

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26. A method for sending a rendered document from a server to a client over a network, comprising:

receiving primary content of the document to be
5 displayed;

identifying secondary content to be displayed in
conjunction with the primary content;

determining whether there is available white space
within the primary content, when displayed within a display
10 area, to accommodate the secondary content;

performing at least one of:

embedding the secondary content in the
available white space if it is determined that
there is available white space to accommodate the
secondary content; and
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reflowing the primary content to form
suitable white space in the displayable area and
embedding the secondary content in the suitable
white space formed; and

20 sending the document with the embedded secondary
content to the client for display.

27. A computer system having means for sending a rendered document to a client over a network, comprising:

25 means for receiving primary content of the document to
be displayed;

means for identifying secondary content to be displayed
in conjunction with the primary content;

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means for determining whether there is available white space within the primary content, when displayed within a displayable area, to accommodate the secondary content;

means for performing at least one of:

5 embedding the secondary content in the available white space if it is determined that there is available white space to accommodate the secondary content; and

10 reflowing the primary content to form suitable white space in the displayable area and embedding the secondary content in the suitable white space formed; and

means for sending the document with the embedded secondary content to the client for display.

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28. A method for rendering a fixed content document on a display utilizing a viewer program running on a computer system, comprising:

20 receiving primary content of the document to be displayed;

 identifying secondary content to be displayed in conjunction with the primary content;

25 determining whether there is available white space within the primary content, when displayed within a display area, to accommodate the secondary content; and performing at least one of:

30 embedding the secondary content in the available white space if it is determined that there is available white space to accommodate the secondary content; and

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5 overlaying the secondary content over a
 portion of the primary content for a period of
 time if it is determined that there is no
 available white space to accommodate the secondary
 content.

29. A computer program on a computer usable medium having
computer readable program code means for rendering a fixed
content document on a display, comprising:

- 10 means for receiving primary content of the document to
 be displayed;
 means for identifying secondary content to be displayed
 in conjunction with the primary content;
 means for determining whether there is available white
15 space within the primary content, when displayed within a
 display area, to accommodate the secondary content; and
 means for performing at least one of:
 embedding the secondary content in the
 available white space if it is determined that
20 there is available white space to accommodate the
 secondary content; and
 overlaying the secondary content over a
 portion of the primary content for a period of
 time if it is determined that there is no
25 available white space to accommodate the secondary
 content.

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30. A computer system executing a viewer program having means for rendering a fixed content document on a display, comprising:

means for receiving primary content of the document to
5 be displayed;

means for identifying secondary content to be displayed
in conjunction with the primary content;

means for determining whether there is available white
space within the primary content, when displayed within a
10 display area, to accommodate the secondary content; and

means for performing at least one of:

embedding the secondary content in the
available white space if it is determined that
there is available white space to accommodate the
15 secondary content; and

overlaying the secondary content over a
portion of the primary content for a period of
time if it is determined that there is no
available white space to accommodate the secondary
20 content.

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